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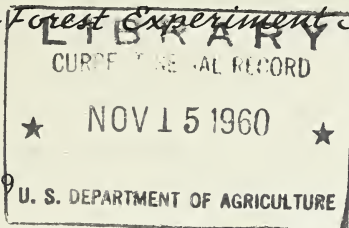


# Southern Forestry Notes



FOREST SERVICE, U. S. DEPARTMENT OF AGRICULTURE

*Southern Forest Experiment Station, New Orleans, La.*



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## 1959 SETS RECORD FOR SOUTHERN PULPWOOD

Pulpwood output in the South reached an all-time high in 1959--nearly 23 million cords of roundwood and residues. This volume was equal to 60 percent of all wood received by the Nation's pulpmills.

Roundwood harvest totalled 20 million cords, of which 81 percent was pine. Hardwood bolts increased 28 percent over 1958; pine, 7 percent. Nearly three-fourths of the hardwood was gum and other soft-textured species.

Pulpwood made from plant residues accounted for another 2.5 million cords--38 percent more than 1958. Almost nine-tenths of the total was pine chips, chiefly from sawmills.

Seventy-six wood pulpmills were operating in the South during 1959, with a combined daily pulping capacity of over 46,000 tons. Seven additional pulpmills are planned or are already under construction. Announced expansion of existing plants will add still more capacity.

A full report on 1959 pulpwood production in the South is available upon request.--Joe F. Christopher.

## SITE PREPARATION AIDS PINE SEEDING IN OUACHITAS

Site treatments that bared mineral soil consistently improved stocking and survival of direct-seeded shortleaf pine in the Ouachita Mountains of Arkansas.

Sites were prepared soon after a pine harvest cut made in June. Seed treated with repellents but not stratified was sown in December at the rate of 0.5 pound per acre. Site treatments included deadening all hardwoods in June with 2,4,5-T applied by a tree injector, prescribed burning in September, and furrowing with a fireplow in September.

The following tabulation shows the seedling stand at age 1 year (a minor portion of the catch was from natural seedling):

Site treatment	Seedlings per acre	Milacre stocking
	<i>Number</i>	<i>Percent</i>
Deadening hardwoods	1,470	60
Deadening hardwoods and furrowing	2,240	75
Deadening hardwoods and burning	3,030	79
Burning only	2,800	81

These data confirm field observations that site preparation is necessary in direct seeding, and that merely deadening hardwoods is not enough. The furrowed sites were on silty soil, which became so packed by rain that seedling establishment was hampered. On sandier soils, furrowing might rank with prescribed burning as an auxiliary treatment on areas where hardwoods have been chemically controlled. Burning alone induced a good seedling catch, but many hardwoods that were killed back by fire have sent up sprouts that will overtop the pines. Where chemicals were used, hardwood sprouts are no problem.

Prescribed burning is not recommended on erodible slopes, where damage from soil movement might outweigh benefits to regeneration.-- *J.L. Smith, D.R. Bower, and E.R. Lawson.*

## MICE HINDER PINE SEEDING ON CUMBERLAND PLATEAU

Rodents rather than birds may be the major obstacle to direct seeding on the Cumberland Plateau of Tennessee.

The usual seeding period in this region is midwinter to early spring. Trapping studies were made at this season near Sewanee in stands of low-grade hardwood that were scheduled for conversion to pine. They revealed 5 to 6 white-footed mice per acre, a high population for this species, plus a smaller number of shrews. Birds are relatively scarce, probably because the winters are severe and the heavy brush on typical seeding sites does not favor a concentration of seed-eating species.

In 1957, loblolly and shortleaf pine seed was stratified, treated with a thiram-endrin mixture of known repellency, and sown in late March on disked sites in a stand of low-grade oaks and hickories with a medium to dense sprout-growth understory. Sowing rate was 15,000 sound seeds per acre. Initial per-acre germination for loblolly was 9,130 seedlings with repellent, but 4,730 for untreated seed. For shortleaf, germination was 12,800 with repellent and 4,830 without.

In laboratory tests, white-footed mice learned to avoid treated seed. Untreated loblolly seed was not eaten when the thinner-shelled shortleaf and Virginia seeds were available. The repellent was one recommended by the U.S. Fish and Wildlife Service: 4.2 pounds effective thiram and 0.4 pound effective endrin per 100 pounds dry seed, with latex as a sticker.

At the sowing rates used and with the animal populations found, even the untreated seeding was successful. Where sowing rate is lighter or predator populations are larger, the repellent might make the difference between success or failure.--A.L. Mignery, Southern Forest Experiment Station; and H.C. Yeatman, Biology Dept., University of the South.

### REPELLENTS REDUCE RABBIT DAMAGE

In north Mississippi, repellents containing endrin, zinc dithiocarbamate, nicotine sulfate, and calcium polysulfide (lime-sulfur) have discouraged rabbits from nipping newly planted loblolly pines.

Seedlings were sprayed in the nursery bed with 35 test formulations and then lifted, baled, stored for a week, and bar-planted on old fields. The most effective formulations were endrin or zinc in emulsions of latex, wax, or asphalt; nicotine sulfate in latex emulsion; and lime-sulfur in asphalt emulsion. When applied during the dormant season these preparations did not seem to harm the pines, and they reduced browsing at least by half. Seedlings treated with them had first-year survivals of 80 percent or better.

Only zinc and lime-sulfur are recommended for general use, because endrin and nicotine are toxic to humans. Approximately 100 gallons of mixture are enough for spraying 300,000 to 400,000 seedlings. The zinc dithiocarbamate can be prepared by adding 5 gallons of the commercial preparation (sold under the trade name Z.I.P. and containing 4.5 percent metallic zinc) to any of the following: 23.8 gallons of wax emulsion plus 71.2 gallons of water; or 120 pounds of asphalt emulsion (paste) plus 85.5 gallons of water; or 6.3 gallons of latex emulsion and 88.7 gallons of water. For the lime-sulfur mixture, 11.1 gallons of 30 percent calcium polysulfide are added to 120 pounds asphalt emulsion and 74.5 gallons of water. The chemical should be added after the emulsion and water have been mixed, and the formulation agitated during application.--Russell M. Burns.

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- \*Morris, R.C. *Control of cottonwood insects with a systemic insecticide.* Journal of Forestry, September 1960, p. 718.
- \*Peevy, F.A. *Controlling southern weed trees with herbicides.* Journal of Forestry, September 1960, pp. 708-710.
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- \*Row, Clark. *Soil-site relations of old-field slash pine plantations in Carolina sandhills.* Journal of Forestry, September 1960, pp. 704-707.
- \*Row, Clark. *South's markets help southern pine.* Southern Lumberman, July 15, 1960, pp. 26-27.
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- \*Shoulders, Eugene. *Seedbed density influences production and survival of loblolly and slash pine nursery stock.* Tree Planters' Notes 42, pp. 19-21. June 1960.
- \*Siegel, W.C., and Row, Clark. *Selling sawlogs by the ton.* Forest Farmer, September 1960, pp. 8-9.
- \*Smith, L.F. *Early growth of slash pine on upland and wet sites.* Journal of Forestry, September 1960, pp. 720, 725.
- \*Todd, A.S., Jr., and Nichols, Agnes C. *1959 pulpwood production in the South.* Southeastern Forest Experiment Station, Forest Survey Release 56, 23 pp.

\*Copies are available at the Southern Station.